JUN 30 2004
PATENT & TRADEMARK OFFICE

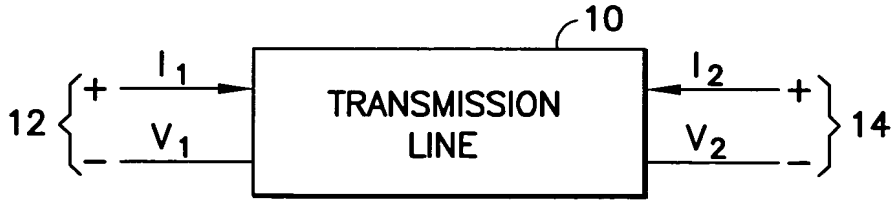


FIG.1

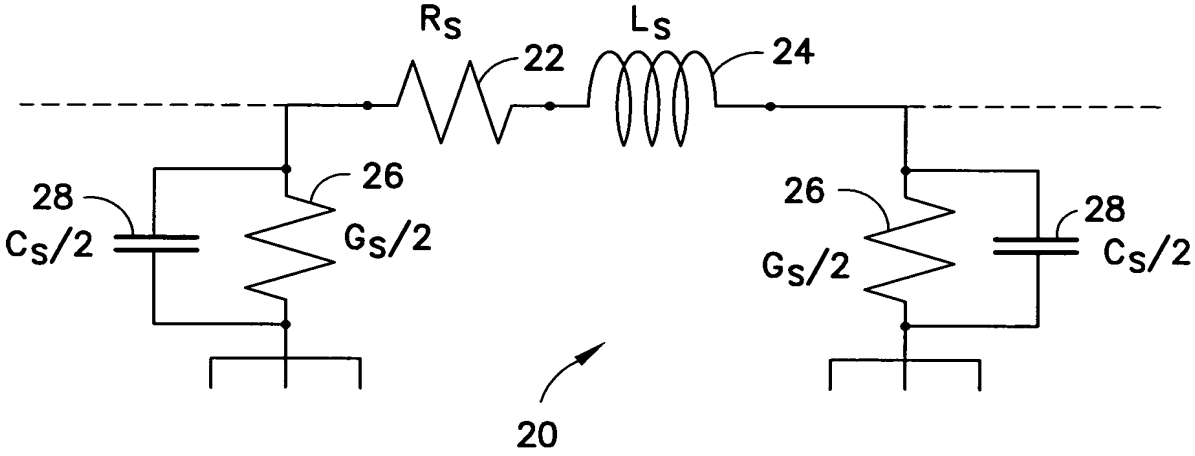


FIG.2

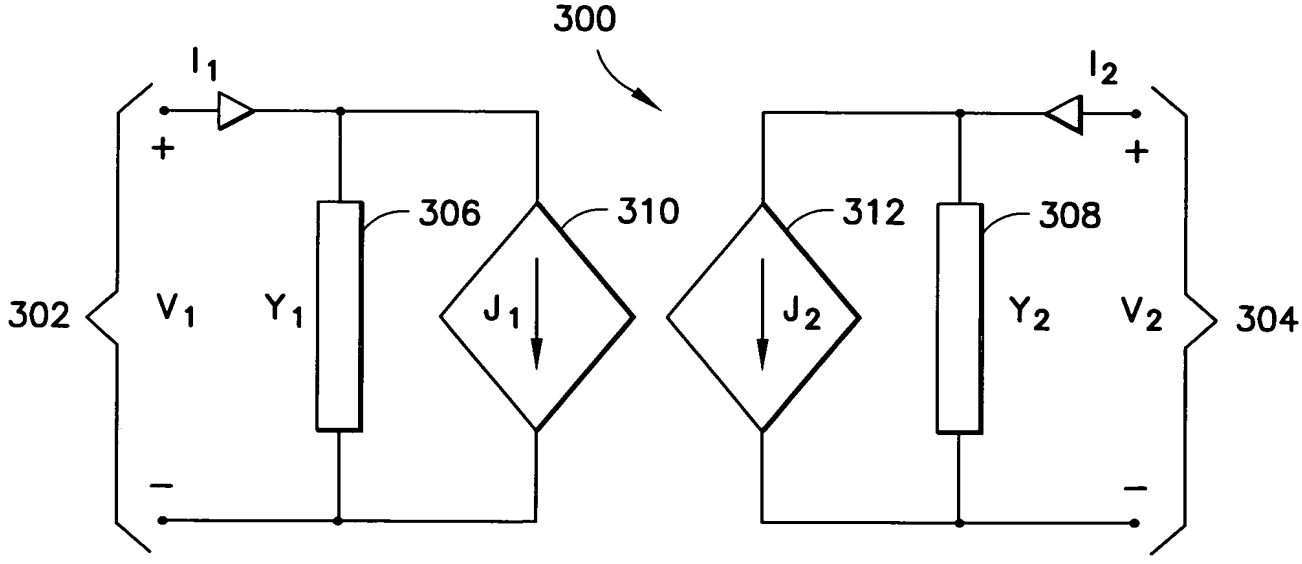
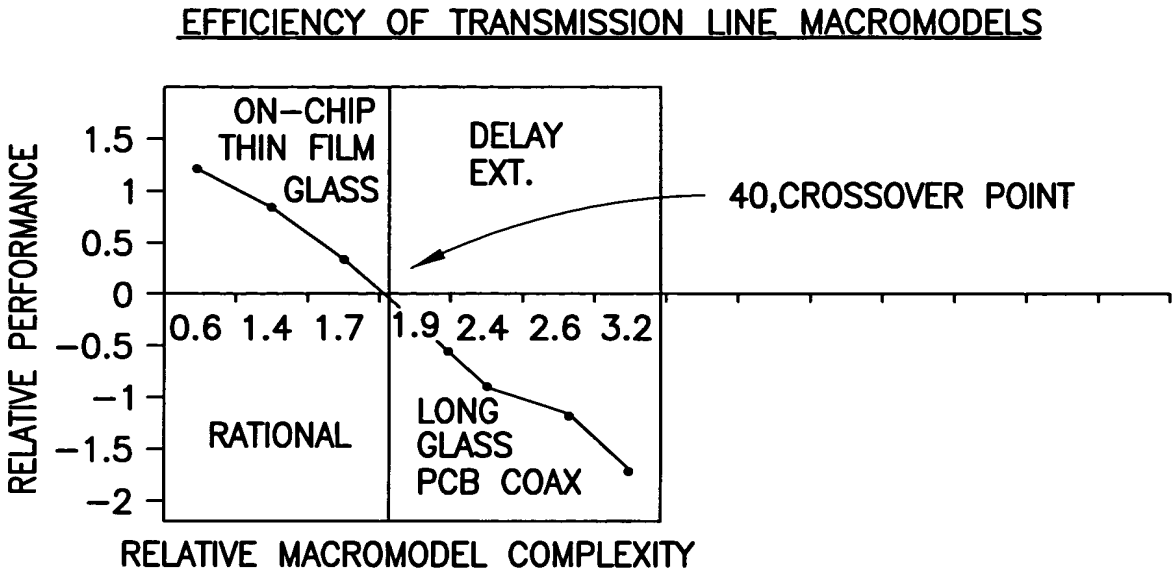


FIG.3



RELATIVE MODEL COMPLEXITY = LOG(#RATIONAL_NODES/#EXT_DELAY_NODES)
RELATIVE PERFORMANCE = LOG(RATIONA_CPU/EXT_DELAY_CPU)

FIG.4

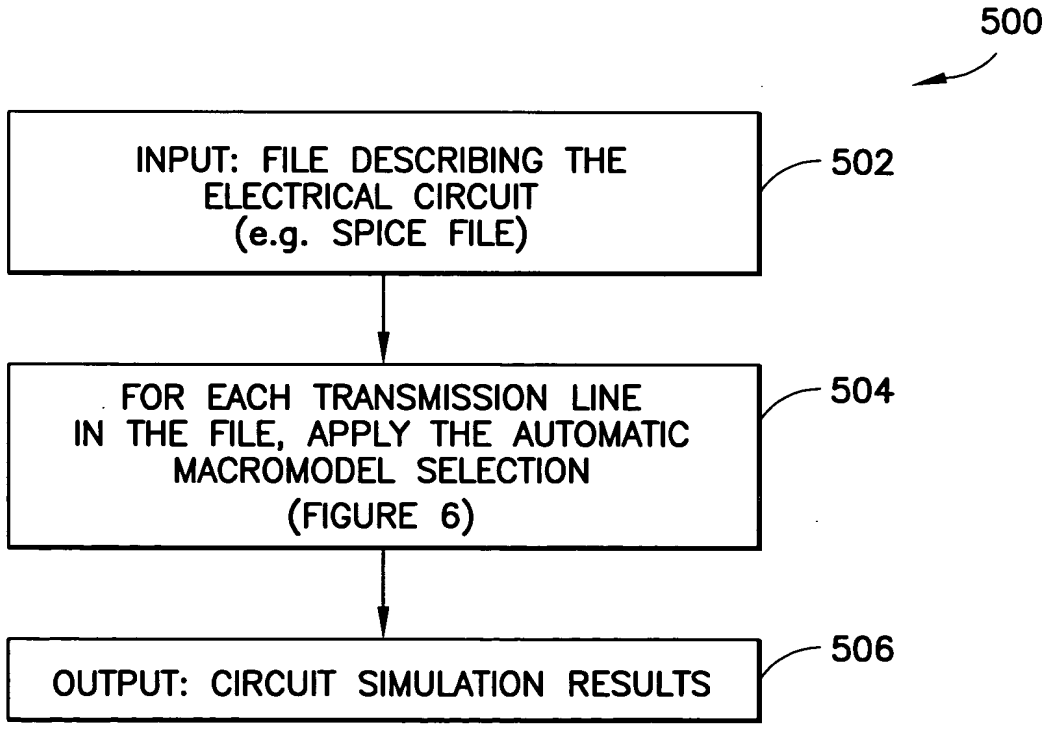


FIG.5

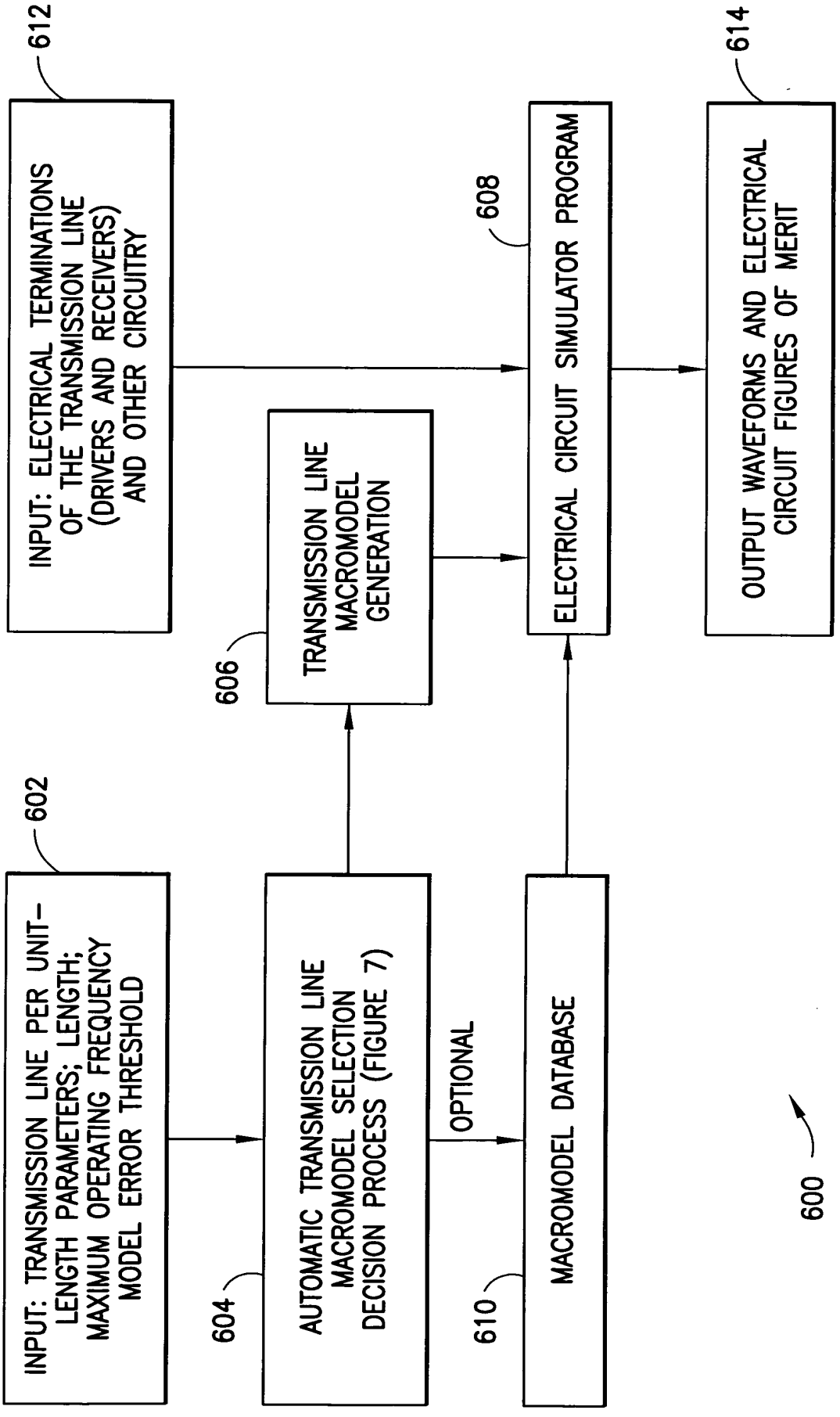

INPUT: TRANSMISSION LINE PER UNIT-LENGTH PARAMETERS; LENGTH; MAXIMUM OPERATING FREQUENCY MODEL ERROR THRESHOLD
602
AUTOMATIC TRANSMISSION LINE MACROMODEL SELECTION DECISION PROCESS (FIGURE 7)
604
OPTIONAL
MACROMODEL DATABASE
610
TRANSMISSION LINE MACROMODEL GENERATION
606
INPUT: ELECTRICAL TERMINATIONS OF THE TRANSMISSION LINE (DRIVERS AND RECEIVERS) AND OTHER CIRCUITRY
612
ELECTRICAL CIRCUIT SIMULATOR PROGRAM
608
OUTPUT WAVEFORMS AND ELECTRICAL CIRCUIT FIGURES OF MERIT
614
600

FIG.6

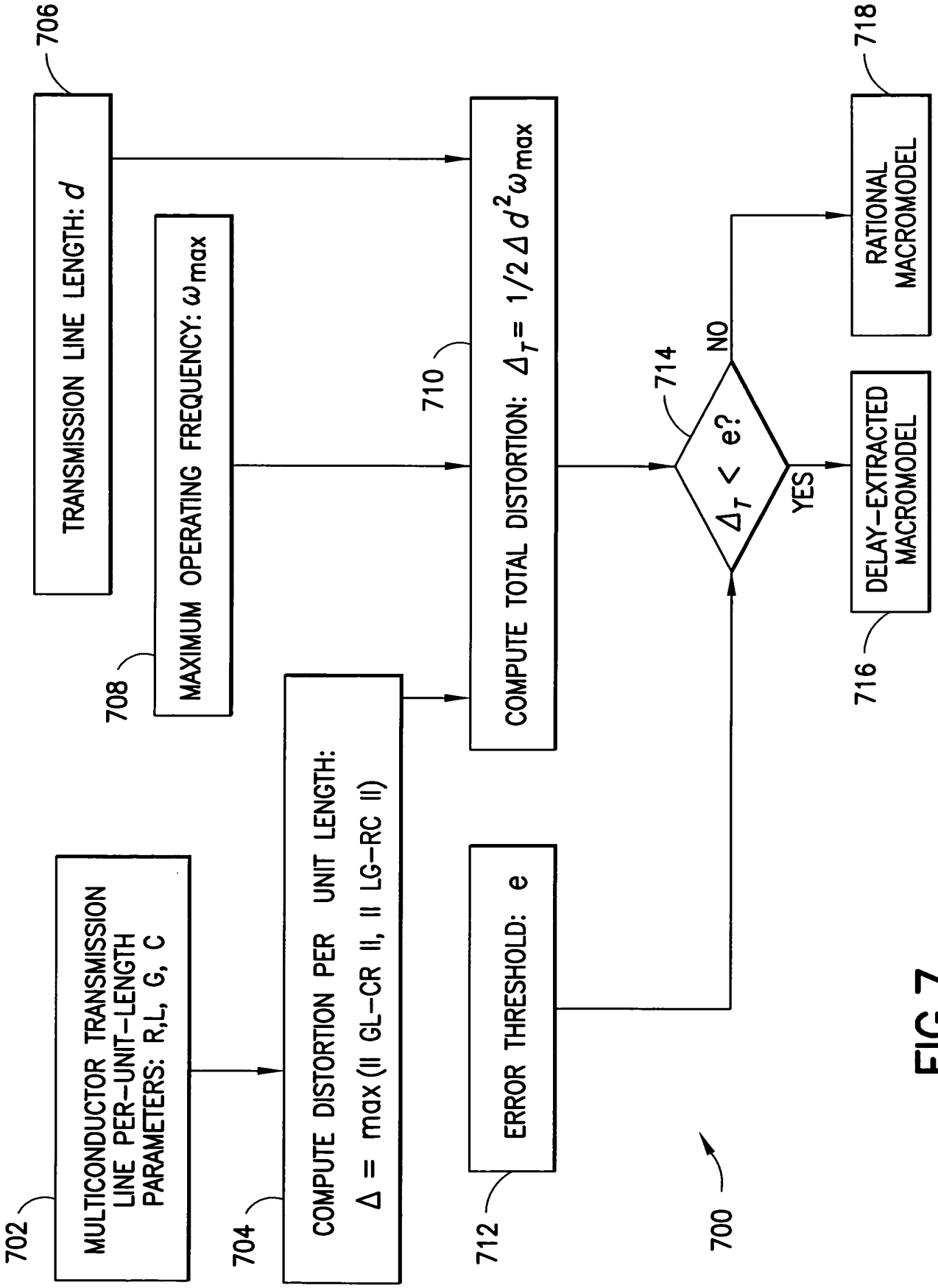

706
TRANSMISSION LINE LENGTH: d
708
MAXIMUM OPERATING FREQUENCY: ω max
710
COMPUTE TOTAL DISTORTION: Δ T = 1/2 Δ d 2 ω max
714
Δ T < e?
NO
YES
718
RATIONAL MACROMODEL
716
DELAY–EXTRACTED MACROMODEL
702
MULTICONDUCTOR TRANSMISSION LINE PER–UNIT–LENGTH PARAMETERS: R,L, G, C
704
COMPUTE DISTORTION PER UNIT LENGTH: Δ = max (|| GL–CR ||, || LG–RC ||)
712
ERROR THRESHOLD: e
700

FIG.7